

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently amended) An electrolyte solution for use in an electrolytic capacitor comprising a compound having an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction in the electrolyte solution, at least one type of electrolyte selected from the group consisting of carboxylic acids or their salts or inorganic acids or their salts, 10-80 wt% of an organic solvent and 90-20 wt% water, wherein the compound having an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction comprises alkyne, alkene or imine, and at least one substituent group selected from the group consisting of hydroxyl, formyl, carbonyl, acyl, carboxyl, sulfonyl, sulfinyl, sulfenyl, amido, amino, alkylamino, dialkylamino, alkoxysilyl, silanol, phenylcarboxyl, nitrile, nitro, nitroso, phenol, phosphono, esters and ethers.
2. (Currently amended) An electrolyte solution for use in an electrolytic capacitor comprising a compound having an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction in the electrolyte solution, at least one type of electrolyte selected from the group consisting of carboxylic acids or their salts or inorganic acids or their salts, 15-80 wt% of an organic solvent and 85-20 wt% water, wherein the compound having an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction comprises alkyne, alkene or imine, and at least one substituent group selected from the group consisting of hydroxyl, formyl, carbonyl, acyl, carboxyl, sulfonyl, sulfinyl, sulfenyl, amido, amino, alkylamino, dialkylamino, alkoxysilyl, silanol, phenylcarboxyl, nitrile, nitro, nitroso, phenol, phosphono, esters and ethers.
3. (Previously presented) An electrolyte solution for use in an electrolytic capacitor according to claim 1, wherein the compound having an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction is soluble in water, polar solvents or protic polar organic solvents.

4. (Canceled)
5. (Previously presented) An electrolyte solution for use in an electrolytic capacitor according to claim 1, wherein the concentration of the inorganic acid or its salt in the electrolyte is 0.1-15 wt % based on the total weight of the electrolyte selected from the group consisting of carboxylic acids or their salts or inorganic acids or their salts.
6. (Previously presented) An electrolyte solution for use in an electrolytic capacitor according to claim 1, wherein the concentration of the carboxylic acid or its salt in the electrolyte solution is 3-30 wt %.
7. (Canceled)
8. (Previously presented) An electrolyte solution for use in an electrolytic capacitor according to claim 1, wherein the compound having an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction is included in an amount of 0.1-10 wt% based on the total weight of the electrolyte solution.
9. (Previously presented) An electrolyte solution for use in an electrolytic capacitor according to claim 1, wherein the organic solvent is a protic solvent or an aprotic solvent, or a mixture thereof.
10. (Previously presented) An electrolyte solution for use in an electrolytic capacitor according to claim 1, wherein the carboxylic acid or its salt is selected from the group consisting of monocarboxylic acids, dicarboxylic acids, tricarboxylic acids, saturated carboxylic acids and unsaturated carboxylic acids and their salts.
11. (Previously presented) An electrolyte solution for use in an electrolytic capacitor according to claim 1, wherein the inorganic acid or its salt is selected from the group consisting of inorganic acids and inorganic acids having an alkyl carbon chain and their ammonium salts, sodium salts, potassium salts, amine salts and alkylammonium salts.

12. (Previously presented) An electrolyte solution for use in an electrolytic capacitor according to claim 1, further comprising at least one compound selected from among the following groups: (1) chelate compounds, (2) saccharides, (3) hydroxybenzyl alcohols and/or L-glutamic acid diacetate or their salts, (4) gluconic acids and/or gluconic lactone and (5) nitro or nitroso compounds.

13. (Previously presented) An electrolytic capacitor comprising the electrolytic solution according to claim 1.

14. (Withdrawn) An electrolytic capacitor comprising a compound having an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction and an electrolyte solution comprising a solvent composed of 10-80 wt% of an organic solvent, 90-20 wt% water and at least one type of electrolyte selected from the group consisting of carboxylic acids or their salts or inorganic acids or their salts.

15. (Withdrawn) An electrolytic capacitor comprising a compound having an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction and an electrolyte solution comprising a solvent composed of 15-80 wt% of an organic solvent, 85-20 wt% water and at least one type of electrolyte selected from the group consisting of carboxylic acids or their salts or inorganic acids or their salts.

16. (Withdrawn) An electrolytic capacitor according to claim 14, wherein the compound having the carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction comprises an alkyne, alkene or imine compound, and at least one substituent selected from the group consisting of hydroxyl, formyl, carbonyl, acyl, carboxyl, sulfonyl, sulfinyl, sulfenyl, amido, amino, alkylamino, dialkylamino, alkoxysilyl, silanol, phenylcarboxyl, nitrile, nitro, nitroso, phenol, phosphono, esters and ethers.

17. (Withdrawn) An electrolytic capacitor according to claim 14, employing an electrolyte solution comprising a solvent composed of 10-80 wt% of an organic solvent and 90-20 wt% water, and having the compound with an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction present on an electrode surface.

18. (Withdrawn) An electrolytic capacitor according to claim 14, employing an electrolyte solution comprising a solvent composed of 15-80 wt% of an organic solvent and 85-20 wt% water, and having the compound with an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction present on an electrode surface.
19. (Withdrawn) An electrolytic capacitor according to claim 17, wherein the compound with an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction is adhered to or thoroughly permeated into the electrode surface by coating of or immersion in a solution of the unsaturated compound.
20. (Withdrawn) An electrolytic capacitor according to claim 14, employing an electrolyte solution comprising a solvent composed of 10-80 wt% of an organic solvent and 90-20 wt% water, and including the compound with an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction in a separator of the electrolytic capacitor.
21. (Withdrawn) An electrolytic capacitor according to claim 14, employing an electrolyte solution comprising a solvent composed of 15-80 wt% of an organic solvent and 85-20 wt% water, and including the compound with an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction in a separator of the electrolytic capacitor.
22. (Withdrawn) An electrolytic capacitor according to claim 20, wherein the compound with an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction is adhered to or thoroughly permeated into the separator by coating of or immersion in a solution of the unsaturated compound.
23. (Withdrawn) An electrolyte capacitor according to claim 14, wherein the content of the compound with an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction in an electrode foil is 0.01 mg/cm² to 1 mg/cm² (projectional area).

24. (Withdrawn) An electrolyte capacitor according to claim 14, wherein the content of the compound with an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction in a separator is 0.01 mg/cm^2 to 1 mg/cm^2 (projectional area).
25. (Previously presented) An electrolyte solution for use in an electrolytic capacitor according to claim 2 wherein the compound having an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction is soluble in water, polar solvents or protic polar organic solvents.
26. (Canceled)
27. (Canceled)
28. (Previously presented) An electrolyte solution for use in an electrolytic capacitor according to claim 2, wherein the compound having an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction is included in an amount of 0.1-10 wt% based on the total weight of the electrolyte solution.
29. (Previously presented) An electrolyte solution for use in an electrolytic capacitor according to claim 2, wherein the organic solvent is a protic solvent or an aprotic solvent, or a mixture thereof.
30. (Previously presented) An electrolyte solution for use in an electrolytic capacitor according to claim 2, wherein the carboxylic acid or its salt is selected from the group consisting of monocarboxylic acids, dicarboxylic acids, tricarboxylic acids, saturated carboxylic acids and unsaturated carboxylic acids and their salts.
31. (Previously presented) An electrolyte solution for use in an electrolytic capacitor according to claim 2, wherein the inorganic acid or its salt is selected from the group consisting of inorganic acids and inorganic acids having an alkyl carbon chain, and their ammonium salts, sodium salts, potassium salts, amine salts and alkylammonium salts.

32. (Previously presented) An electrolyte solution for use in an electrolytic capacitor according to claim 2 further comprising at least one compound selected from among the following groups: (1) chelate compounds, (2) saccharides, (3) hydroxybenzyl alcohols and/or L-glutamic acid diacetate or their salts, (4) gluconic acids and/or gluconic lactone and (5) nitro or nitroso compounds.
33. (Previously presented) An electrolytic capacitor comprising the electrolytic solution according to claim 2.
34. (Withdrawn) An electrolytic capacitor according to claim 15, wherein the compound having the carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction comprises an alkyne, alkene or imine compound, and at least one substituent selected from the group consisting of hydroxyl, formyl, carbonyl, acyl, carboxyl, sulfonyl, sulfinyl, sulfenyl, amido, amino, alkylamino, dialkylamino, alkoxysilyl, silanol, phenylcarboxyl, nitrile, nitro, nitroso, phenol, phosphono, esters and ethers.
35. (Canceled)
36. (Withdrawn) An electrolytic capacitor according to claim 15, employing an electrolyte solution comprising a solvent composed of 15-80 wt% of an organic solvent and 85-20 wt% water, and having the compound with an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction present on an electrode surface.
37. (Canceled)
38. (Withdrawn) An electrolytic capacitor according to claim 15, employing an electrolyte solution comprising a solvent composed of 15-80 wt% of an organic solvent and 85-20 wt% water, and including the compound having an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction a separator of the electrolytic capacitor.

39. (Withdrawn) An electrolyte capacitor according to claim 15, wherein the content of the compound with an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction in an electrode foil is 0.01 mg/cm^2 to 1 mg/cm^2 (projectional area).

40. (Withdrawn) An electrolyte capacitor according to claim 15, wherein the content of the compound with an unsaturated carbon-carbon or carbon-nitrogen π bond containing chain which undergoes hydrogen addition reaction in a separator is 0.01 mg/cm^2 to 1 mg/cm^2 (projectional area).